



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,322	12/23/2004	Ernest C Chen	PD-202109/10	9113

7590 08/14/2007  
Gates & Cooper  
Howard Hughes Center  
Suite 1050  
6701 Center Drive West  
Los Angeles, CA 90045

EXAMINER
----------

AHN, SAM K

ART UNIT	PAPER NUMBER
----------	--------------

2611

MAIL DATE	DELIVERY MODE
-----------	---------------

08/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/519,322

Applicant(s)

CHEN ET AL.

Examiner

Sam K. Ahn

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :0730,0222,0129,1124,0914,0802,0405,0117.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1-18 are objected to because of the following informalities:

In claim 1, line 8, "the second modulation" should be "the hierarchically modulated signal having the second modulation".

In claim 2, line 1, "wherein applying" should be "wherein said applying".

In claim 3, line 1, "wherein applying" should be "wherein said applying".

In claim 5, line 1, "wherein processing" should be "wherein said processing".

In claim 7, line 3, "produce second" should be "produce the second".

In claim 8, line 3, "produce second" should be "produce the second".

In claim 13, line 14, "the hierarchical signal" should be "the hierarchically modulated signal".

Claims 4,6,9-12 and 14-18 depend on the objected claims. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the demodulated second signal" in line 10.

There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the second modulated signal" in lines 3-4.

There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the second modulated signal" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the demodulated first signal", "the first signal" and "the first signal" in lines 10-11, 14 and 17, respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 13, recites the limitation "the demodulated first signal", "the re-encoded symbol stream" and "the second signal" in lines 15, 17-18 and 20, respectively. There is insufficient antecedent basis for this limitation in the claim.

For example in claim 1, the claim does refer to a demodulating step, however, does not recite a second signal to refer back as the demodulated second signal. Hence, the claim fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention as to where the demodulated second signal is generated from. Other claims are rejected with common analysis.

Claims 2-6, 10-12 and 14-18 directly or indirectly depend on the rejected claims.

***Allowable Subject Matter***

Art Unit: 2611

3. Claims 1-18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and claim objections set forth in this Office action.
4. The following is a statement of reasons for the indication of allowable subject matter: present application discloses a method and an apparatus of a receiver receiving hierarchically modulated signals, wherein the receiver comprises a demodulator, decoder and re-encoder. Prior art teaches all the limitations claimed. However, prior art does not further teach subtracting a signal based on the output of the decoder from the demodulated hierarchically modulated signal to provide to the hierarchically modulated signal having the second modulation at the second hierarchical level for second demodulation and decoder processing.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Uesugi et al. US 6,990,627 B2 (Uesugi) teach a receiver comprising demodulators, decoders and re-encoder receiving hierarchically modulated signal.

Katoh et al. US 6,678,336 B1 teach hierarchical demodulator.

Walker et al. US 7,230,992 B2 teach a system employing hierarchical modulation in OFDM.

Art Unit: 2611

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam K. Ahn  
Patent Examiner

8/11/07